exposed to agricultural chemicals in their work. Two university-based Environmental Health Sciences Centers have been established in recent years to focus on these concerns. The centers are at the University of Iowa, Iowa City, and at the University of California at Davis.

Environmental Justice Addressed

Assuring that the priorities of the NIEHS reflect America's priorities is no easy task.

Since he became director in 1991, Kenneth Olden has been attentive to concerns from outside the laboratory and beyond the beltway. Over the last year, he has conducted fact-finding tours of small, low- Dr. Kenneth Olden



income, and African-American communities in the petrochemical corridor between Baton Rouge and New Orleans and around the nation's largest hazardous waste disposal facility in Emelle, Alabama. Workers he met expressed concern about persistent chlorinated compounds in their blood; parents expressed concern about asthmatic children playing next to oil tank farms and graineries; and laborers were anxious about possible exposures to complex chemical mixtures during clean-ups of hazardous waste.

In response, Olden has made environmental justice a priority on the NIEHS agenda. He has initiated a new program to encourage the development of Environmental Health Sciences Centers in parts of the country where research and training needs are unmet. Recently, Tulane and Xavier Universities in New Orleans were jointly awarded the first developmental center grant, and NIEHS has again requested applications for developmental centers (the application deadline is 28 July 1993). "The overall intent of the Developmental Centers Program," says Olden, "is to establish multidisciplinary research programs supported by core centers. These centers will utilize state-of-the-art science and address environmentally related health problems of the economically disadvantaged and/or underserved populations." Questions on the program should be directed to Thorsten A. Fiellstedt, (919) 541-0131.

In addition, new NIEHS research emphasizes high priorities for asthma and lead poisoning prevention and expanded understanding of the effects of farm chemicals. New guidelines for funding of NIEHS Environmental Health Centers at universities mandate funding of community outreach activities.

In the summer of 1992, NIEHS, EPA, and the Agency for Toxic Substances and Disease Registry convened a workshop on environmental justice research needs. This July, NIEHS and other agencies will sponsor a major symposium in Washington, DC, to discuss the workshop findings. Olden and other senior institute leaders will continue to visit communities around the country to learn more about the concerns of citizens in low-income and ethnic minority areas.

To enhance opportunities for minorities in pursuing science careers, the NIEHS Minority Supplement Program encourages grantees to employ minority students, high school to postdoctoral level, and minority faculty as members of their research teams. In addition, minorities and women are encouraged to participate in the NIEHS Summers of Discovery program, a summer internship in which students and faculty are matched with NIEHS staff mentors. College faculty in the program are entirely from traditionally minority and women's schools. The Summers of Discovery program includes a special seminar series tailored to participants and an August poster session presenting participants' work.

Olden established the NIEHS Office of Institutional Development to further

advance the full participation of women and minorities in training and research careers within the Institute. Marian Johnson-Thompson, director of the office, has launched many initiatives including a national Dr. Marian Johnsonforum for educators



Thompson

on introducing environmental sciences in the K-12 science curriculum.

Cooperative Government-**Industry Program Studies Electromagnetic Fields**

Public concern about the possible health effects of electromagnetic fields (EMF) has prompted Congress to make recommendations for researching EMF as part of the Energy Policy Act of 1992. The bill provides that the Secretary of Energy spend \$65 million over 5 years, a cost to be divided be-tween government and industry, with NIEHS assigned to receive a portion of these funds from the Department of Energy for conducting health research on EMF and for disseminating information to the public.

A recent seminar at NIEHS outlined the expanded EMF efforts under DOE. Speakers were Gary Boorman, chief of the Chemical Carcinogenesis Branch, and Daniel C. Vander-Meer, director of the Office of Program Planning and Evaluation.

The NIEHS already funds 11 investigator-initiated grants for EMF research. In addition,



the National Tox- Dr. Gary Boorman icology Program at NIEHS has begun studies in rodents to investigate the potential toxicity of EMF to the nervous system, developmental processes, and the reproductive system, and it plans to conduct two-year toxicity and carcinogenicity studies in rats and mice. "These are the first long-term animal studies on the health effects of electromagnetic fields," says Boorman. The NIEHS studies will complement research being done at other government agencies, academia, and industry.

Environmental/Occupational Medicine Awards

It has been estimated that the average medical student receives only four hours of training on environmental and occupational medicine in a four-year program of medical education. To enhance diagnosis, treatment, and referral available through primary care physicians for environmental and occupational diseases, NIEHS has established the Environmental/Occupational Medicine Award. Its purpose is to support medical school faculty in enhancing training in environmental and occupational medicine. The award has been reannounced, and the deadline for application is 1 June 1993.

Awardees use many methods for improving physician training including introducing material into existing courses, adopting or authoring texts with appropriate material, using actual case histories, training students on taking accurate medical histories, and introducing rotations, summer laboratory internships, and residencies. For information on applying, contact Annette Kirshner, (919) 541-0488.

NIEHS Signs Formal Interagency Agreement with FDA's National Center For Toxicological Research

The NIEHS and the Food and Drug Administration's National Center for Toxicological Research have signed an interagency agreement to further coordinate acute and chronic toxicity studies done by the two agencies within the National Toxicology Program. Kenneth Olden, Director of NIEHS and NTP, stated that the agreement further strengthens